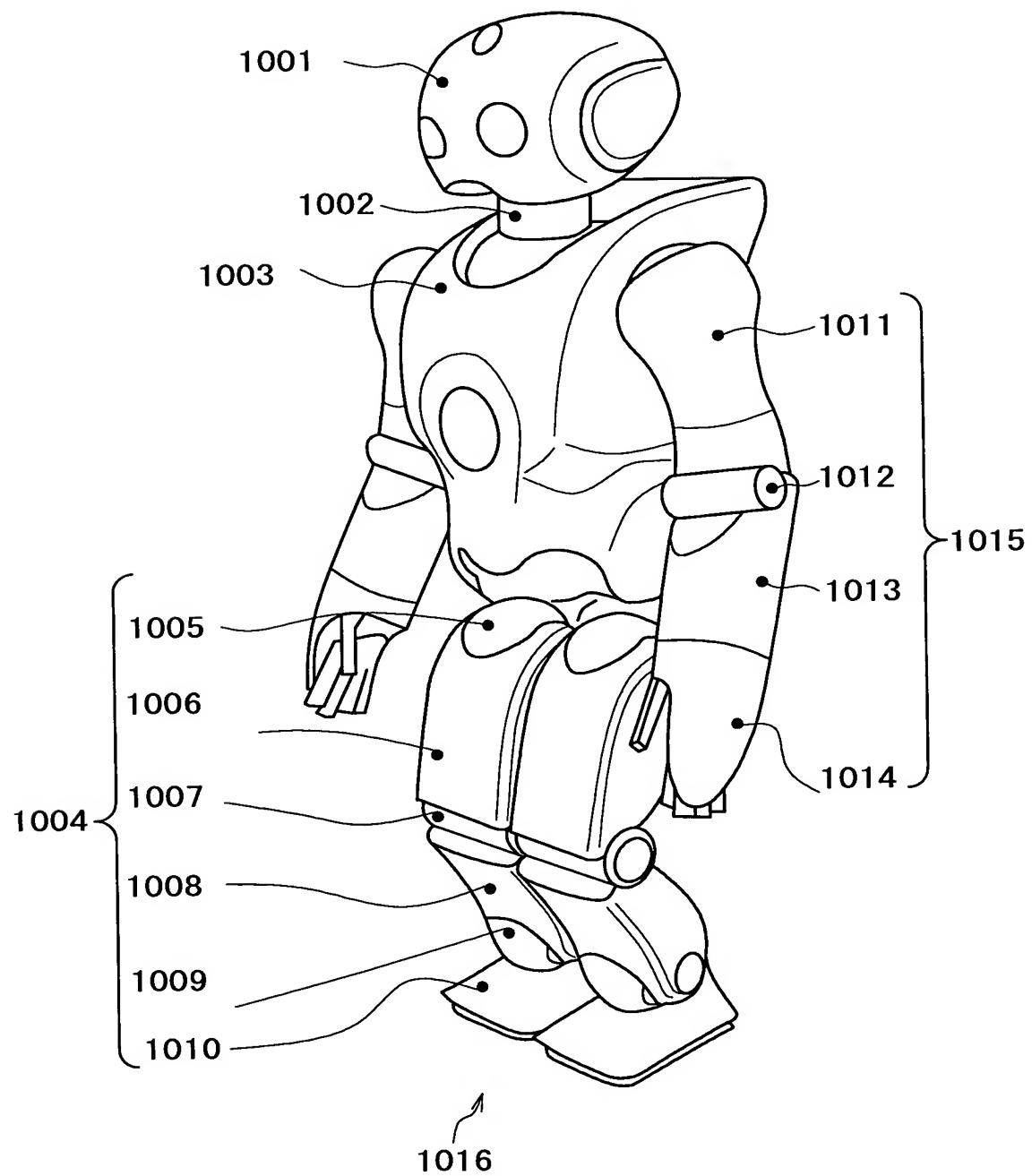
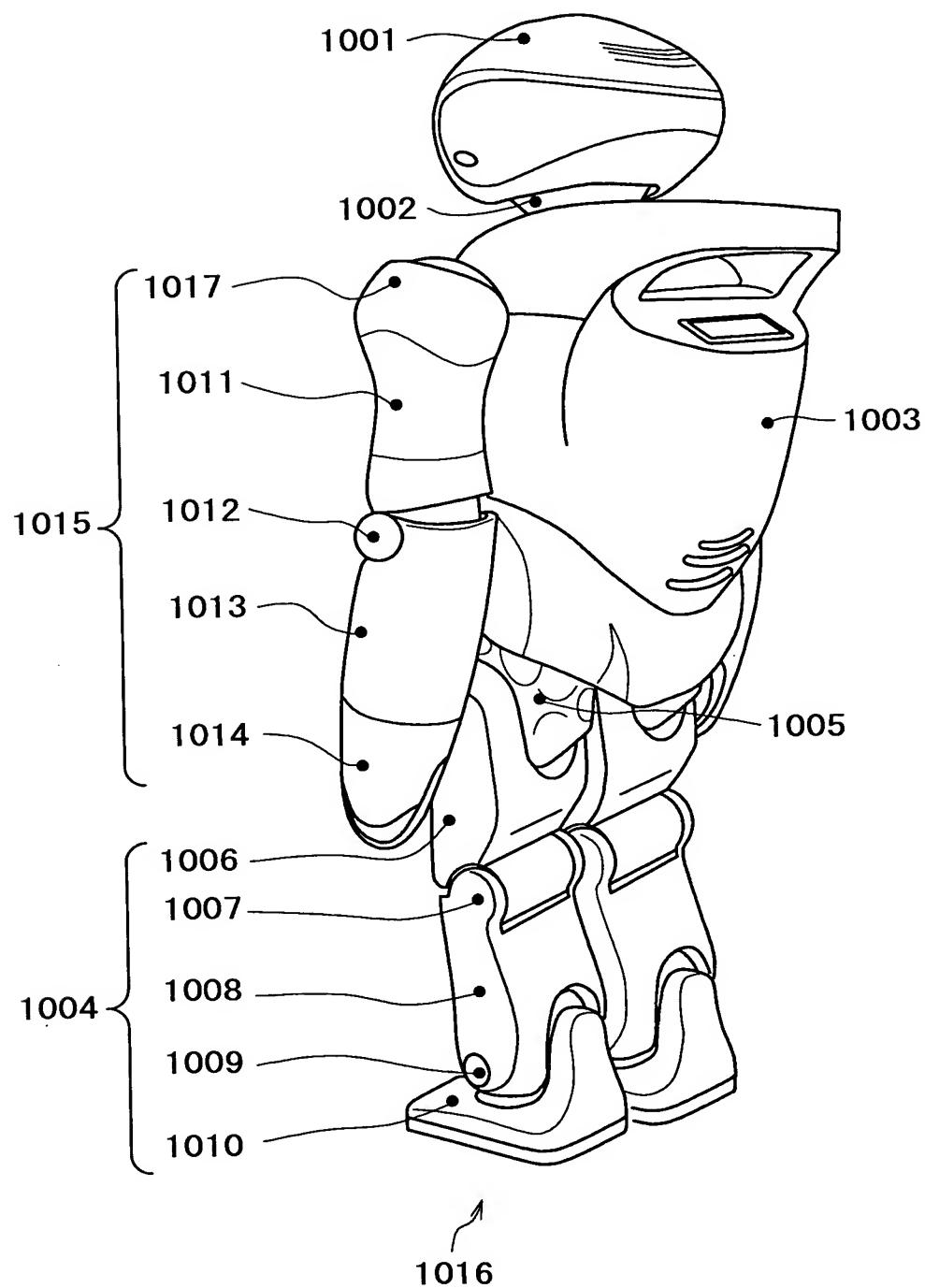


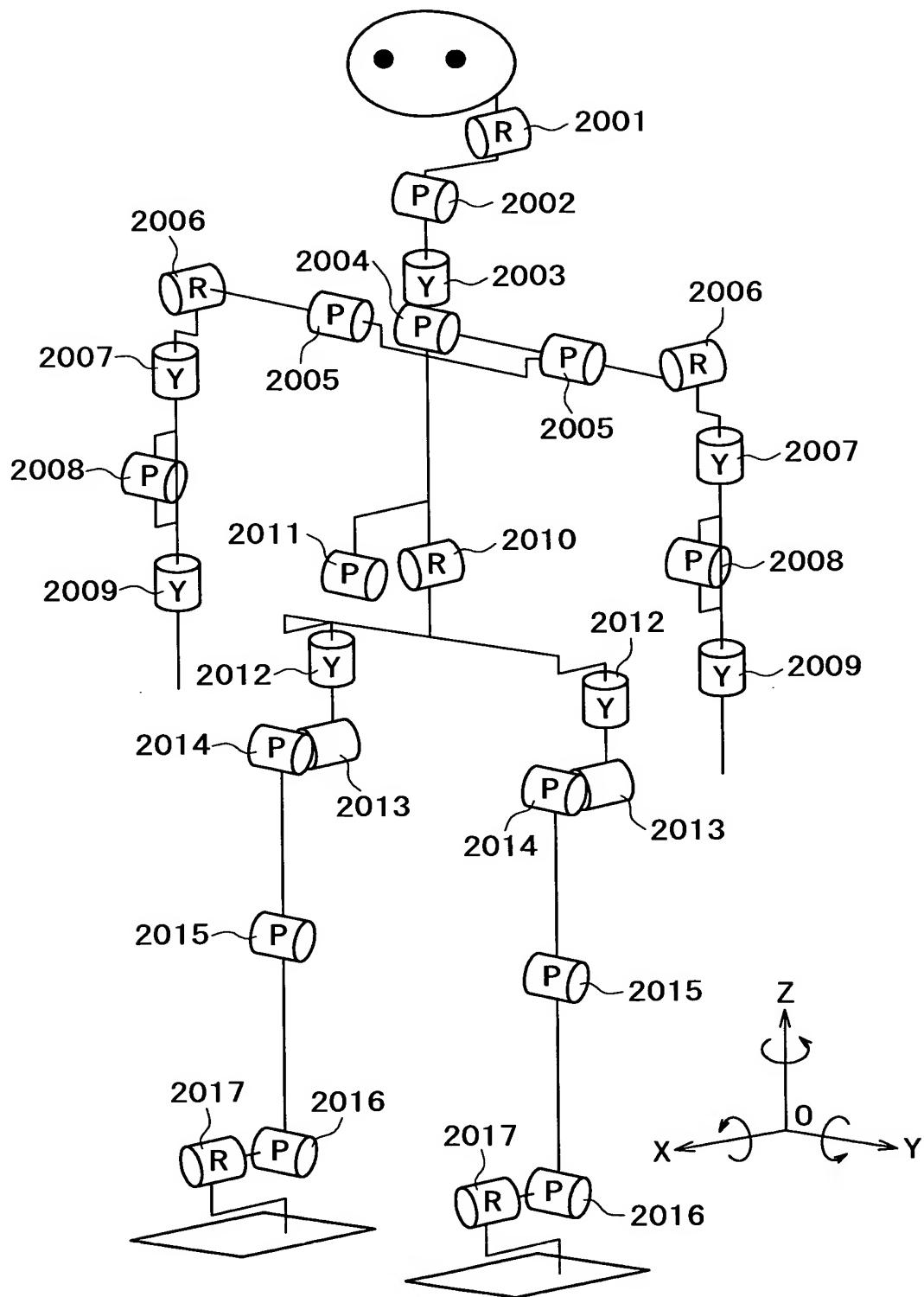
F I G. 1



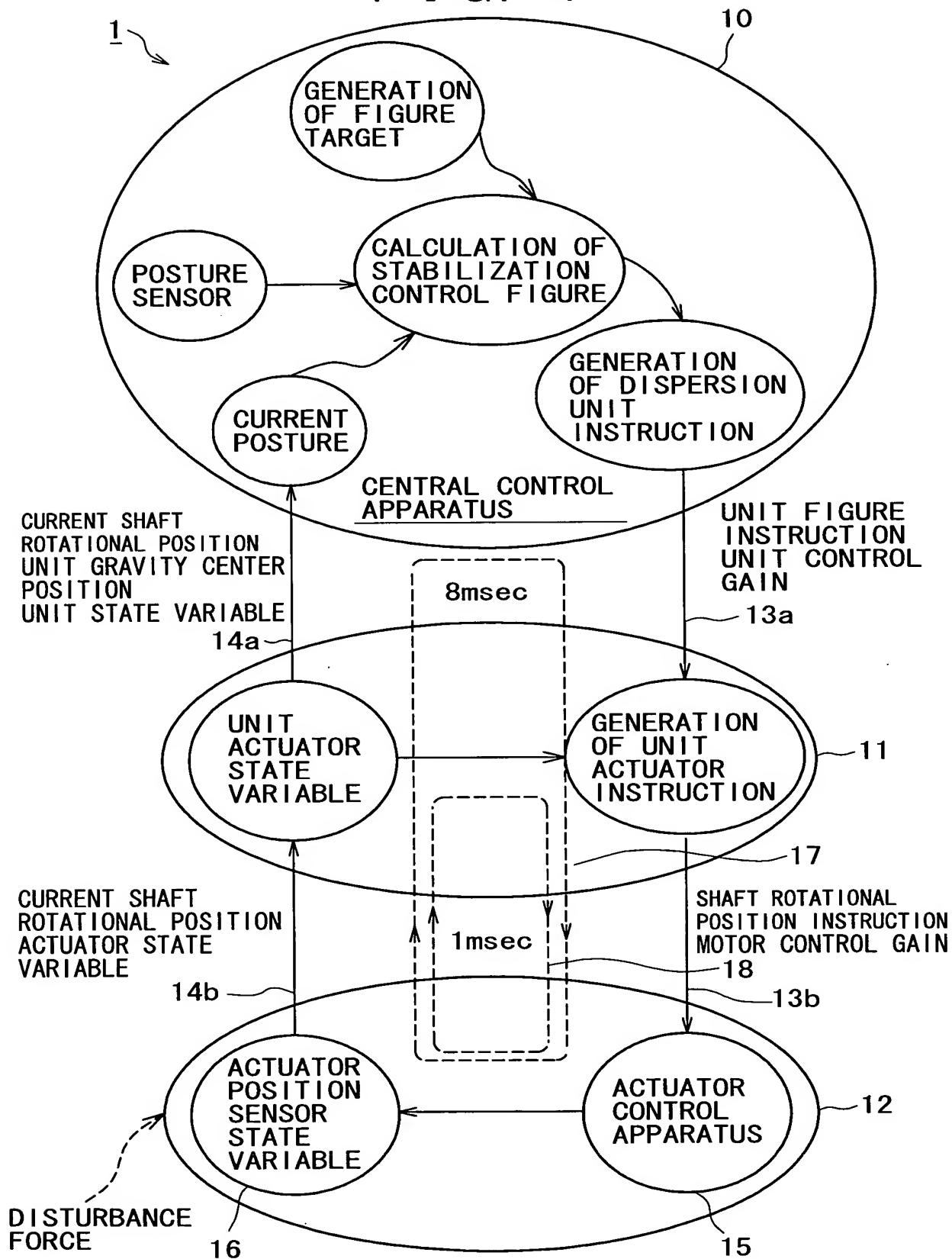
## F I G. 2



F I G. 3



F I G. 4



5  
FIG

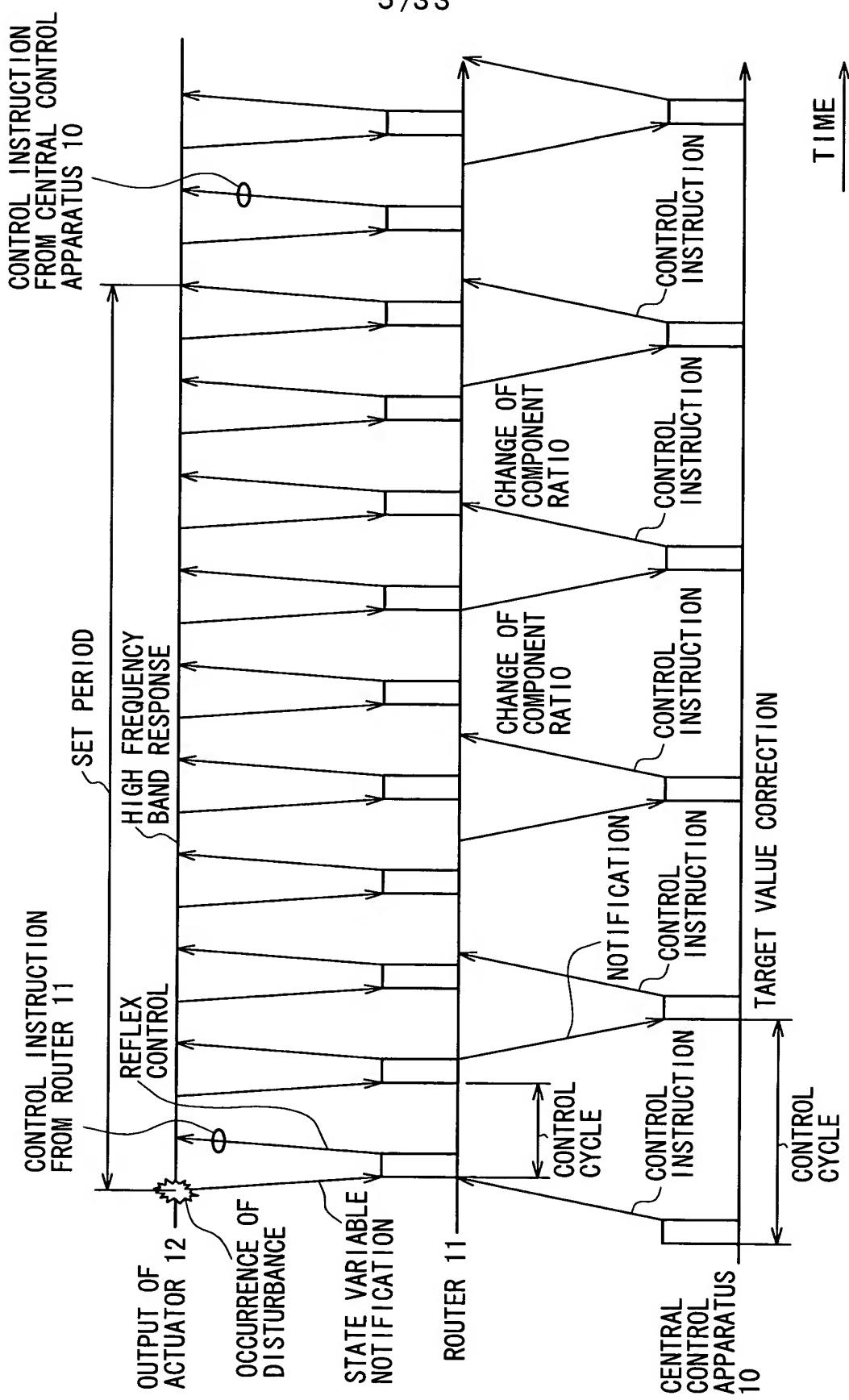


FIG. 6

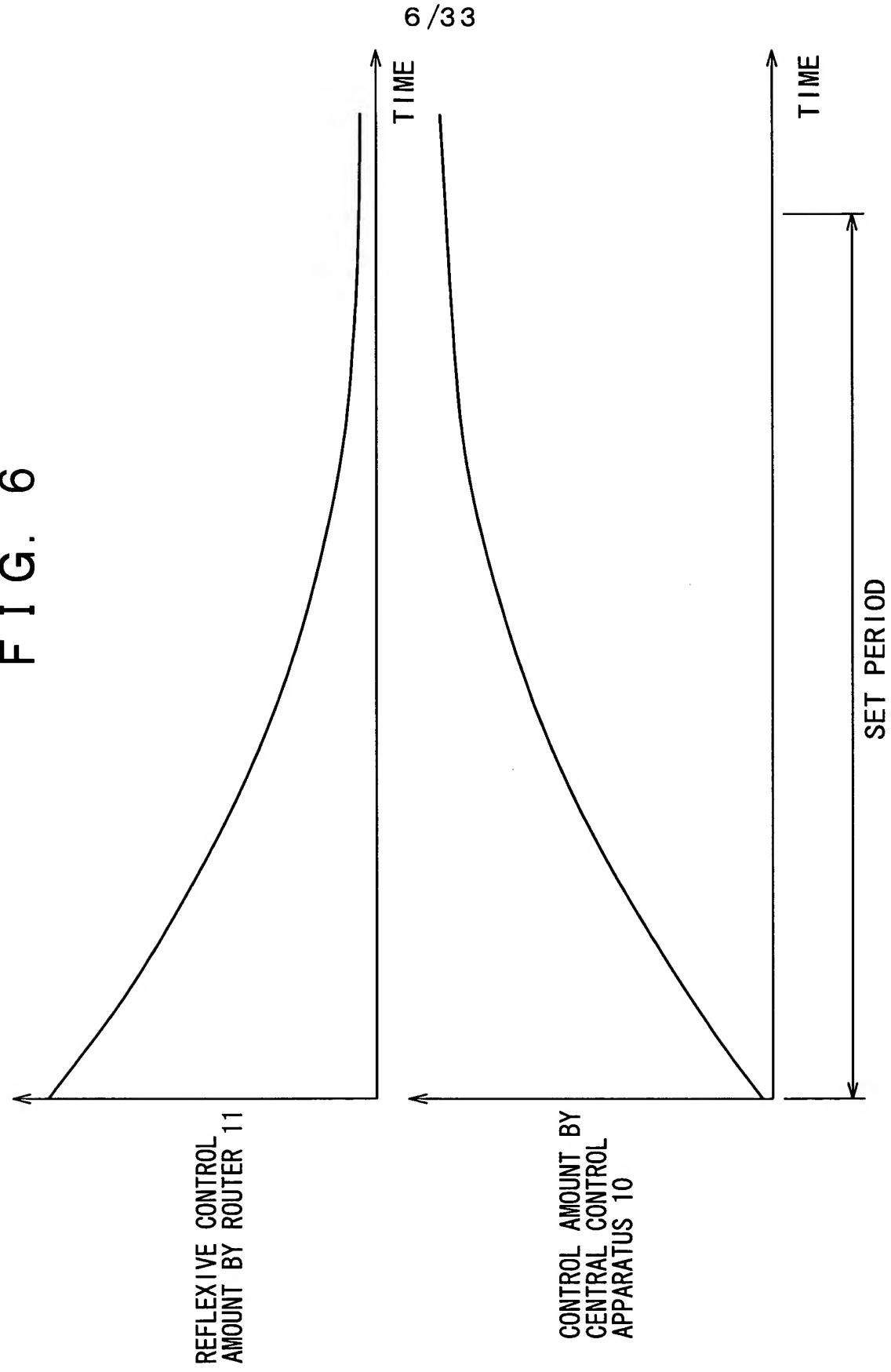


FIG. 7

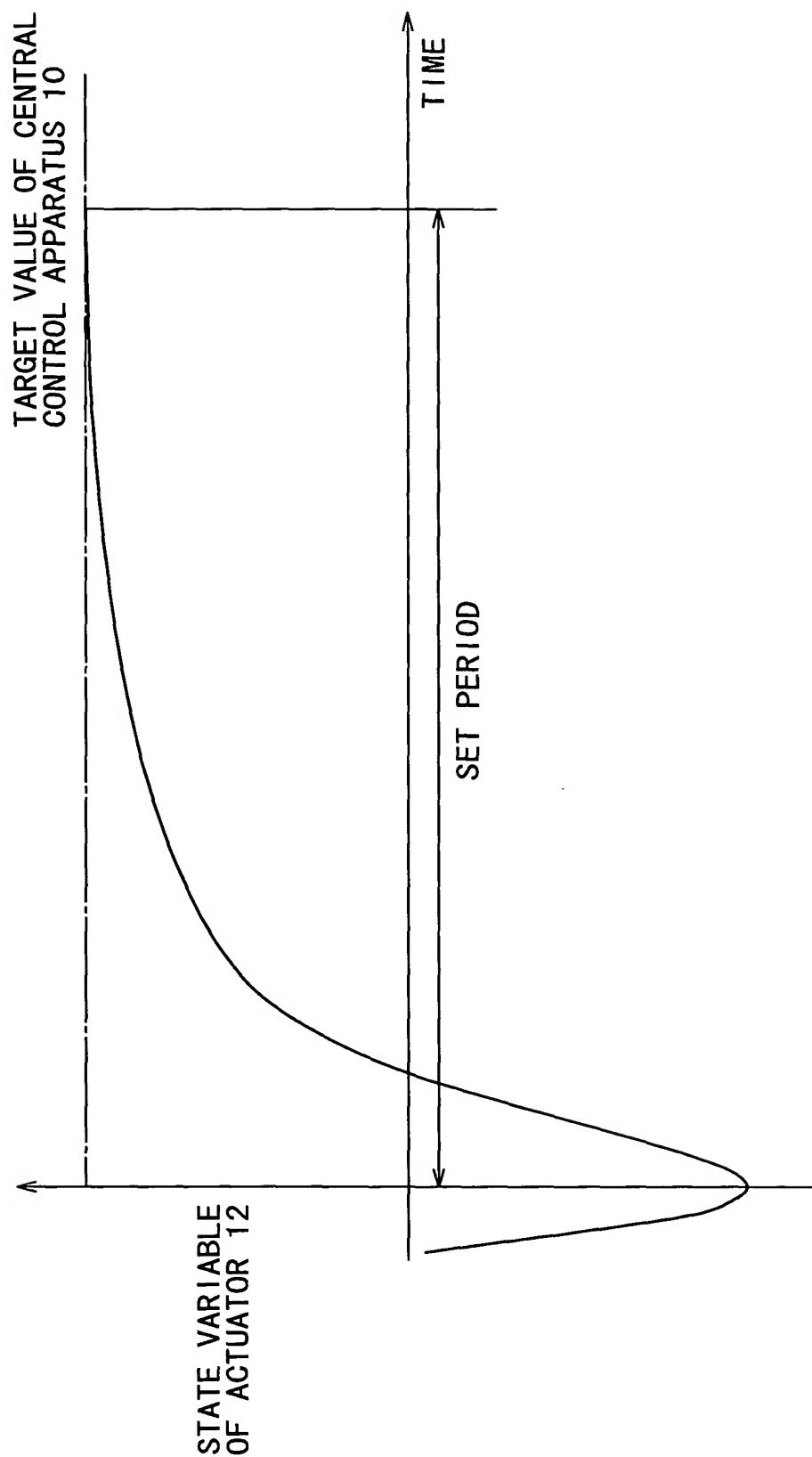
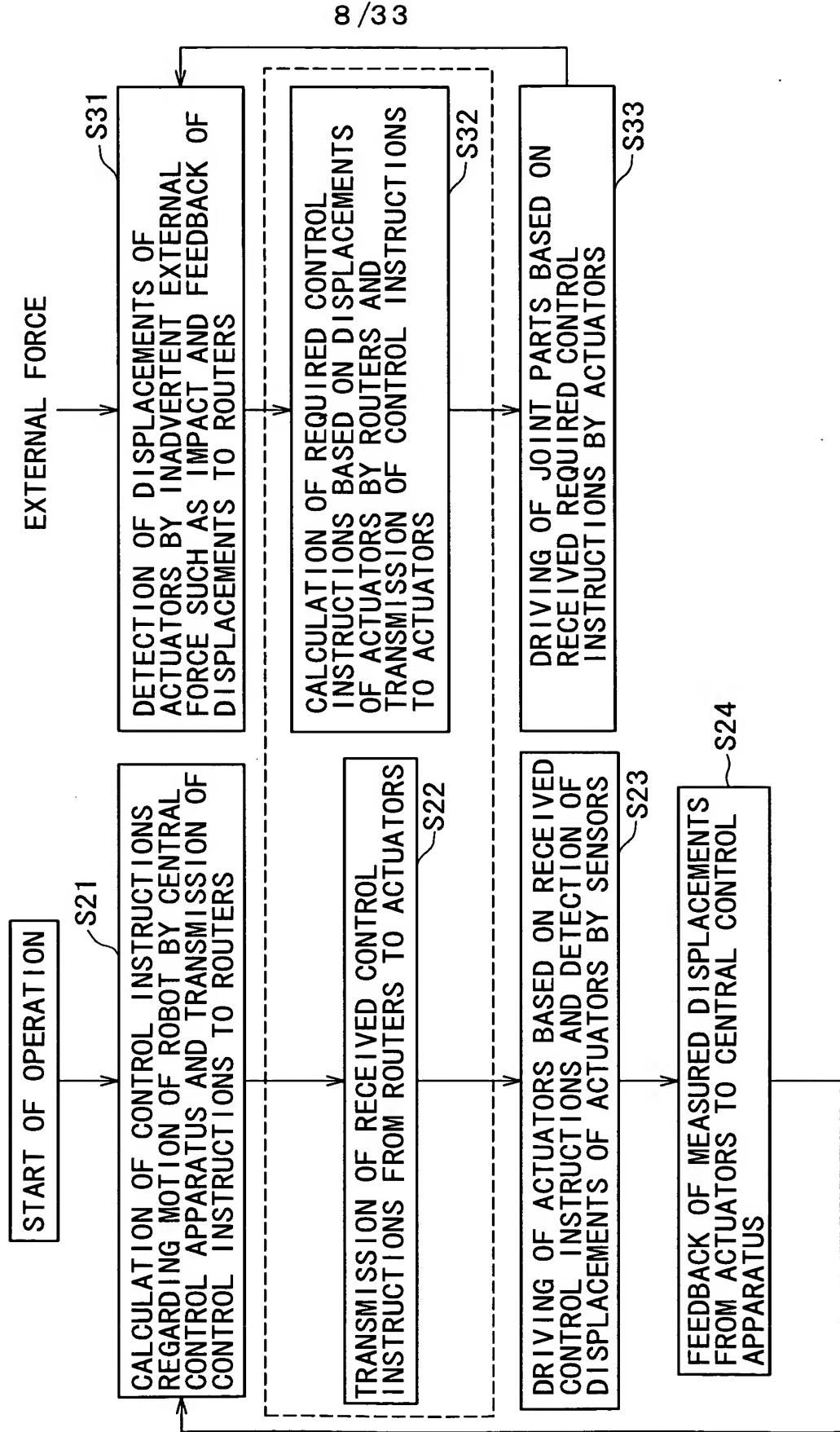


FIG. 8 A

FIG. 8 B



F I G. 9

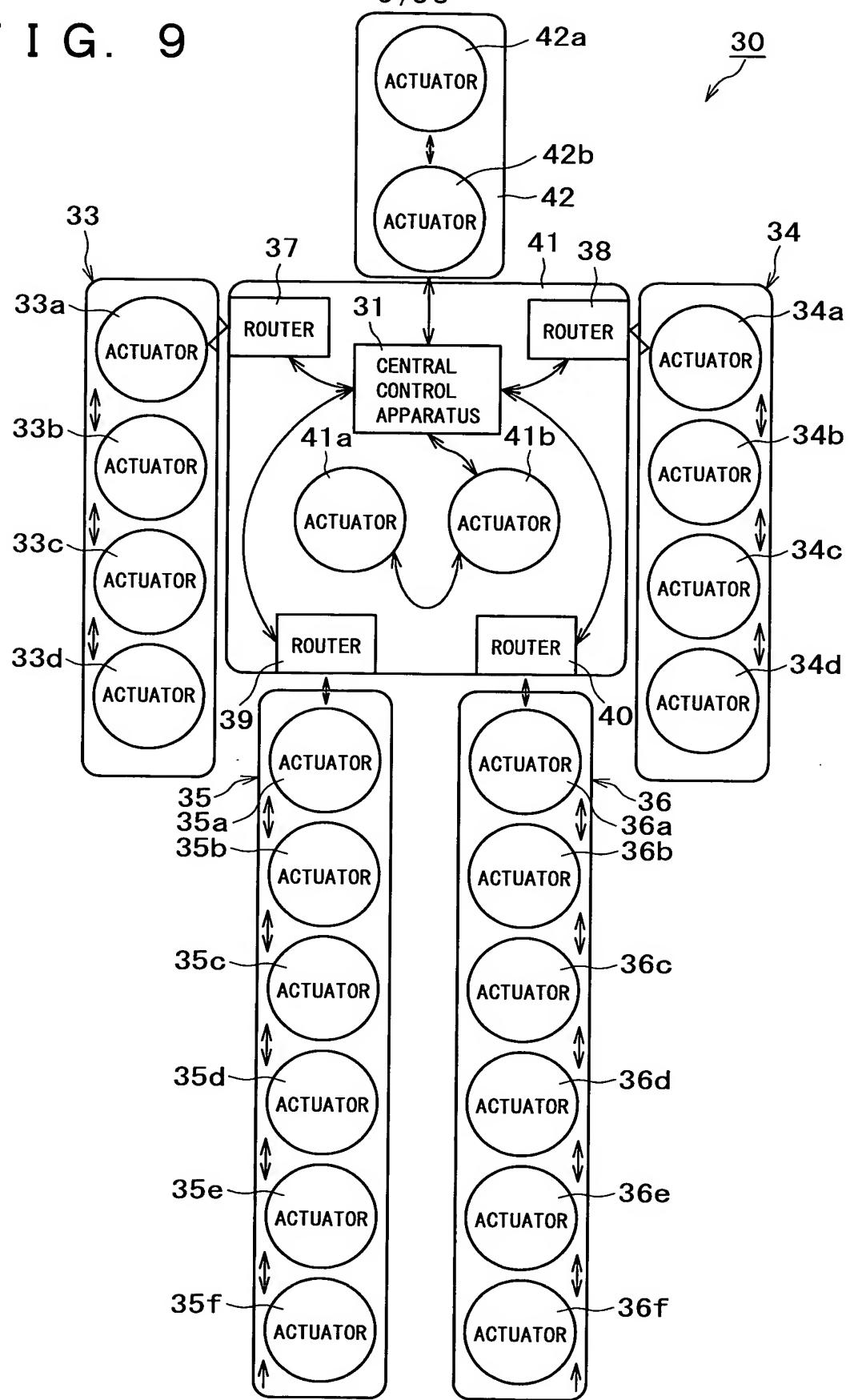


FIG. 10

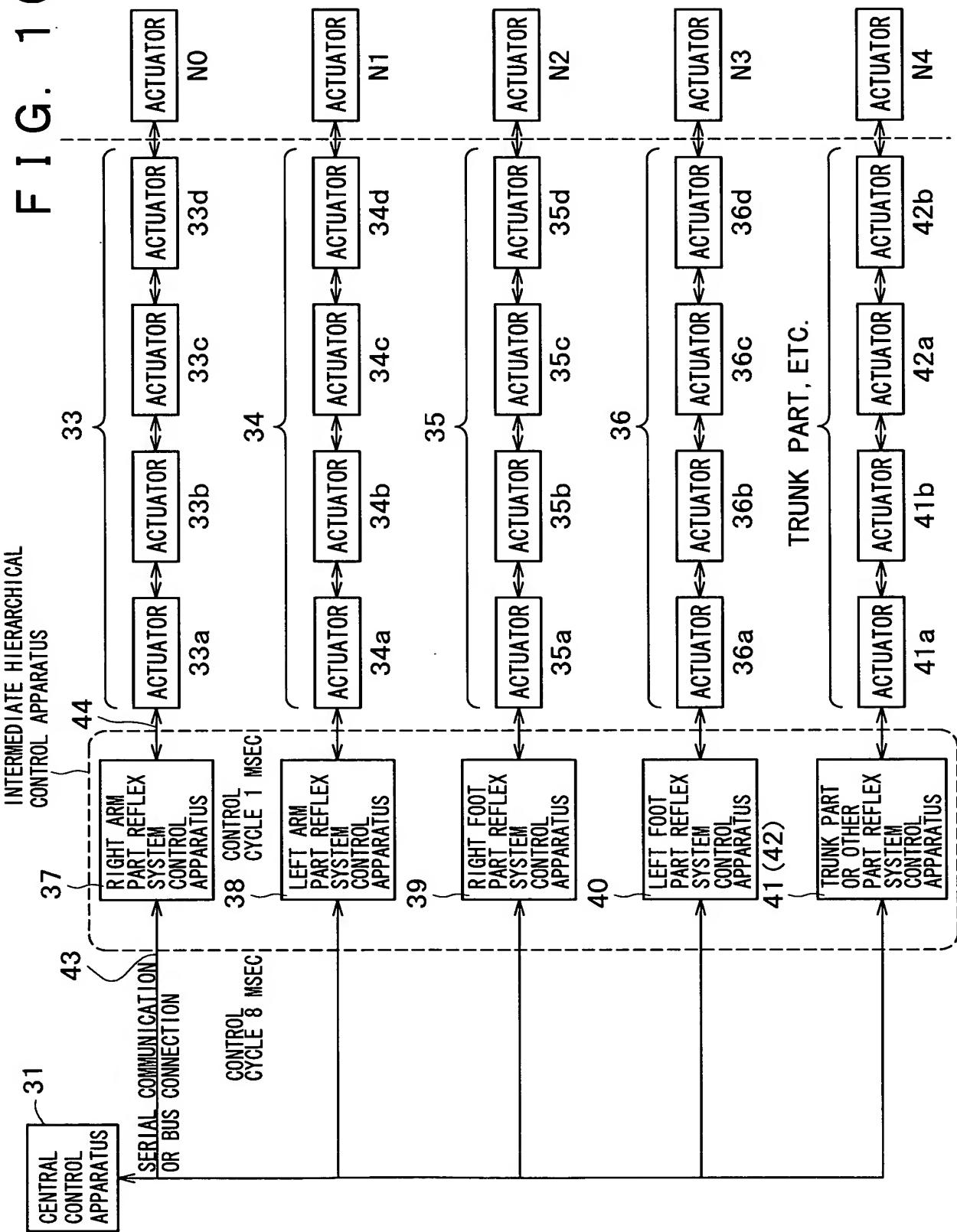
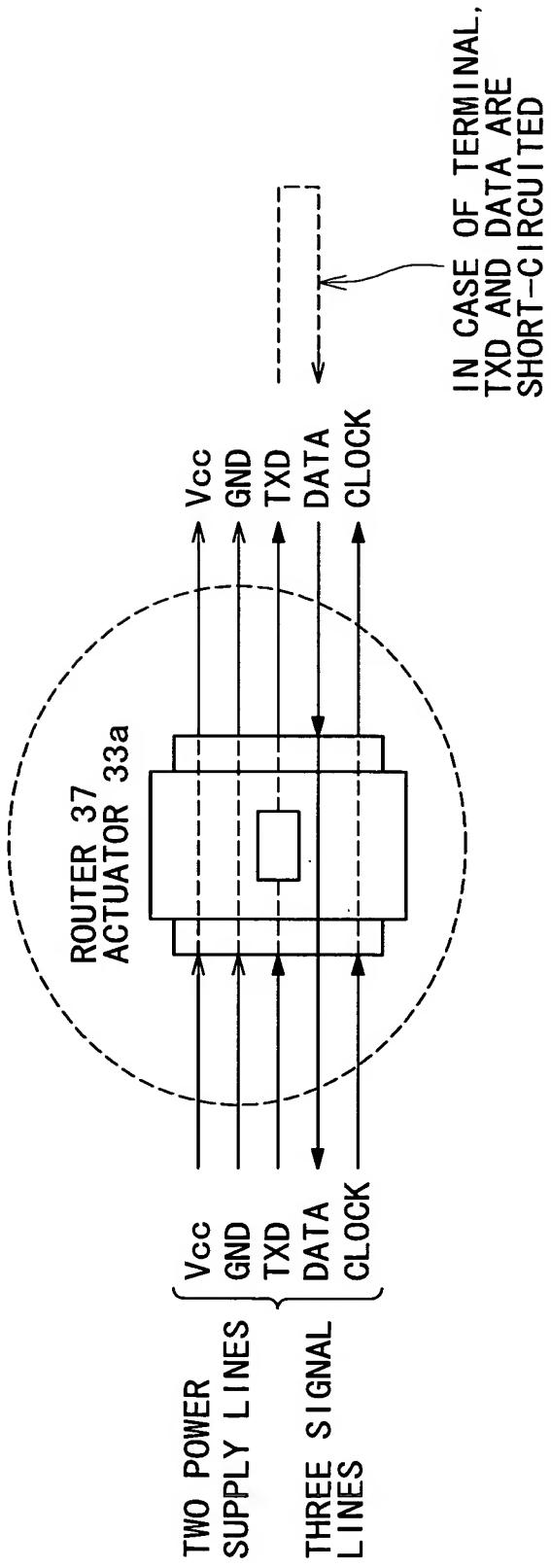


FIG. 11



F. I G. 1 2

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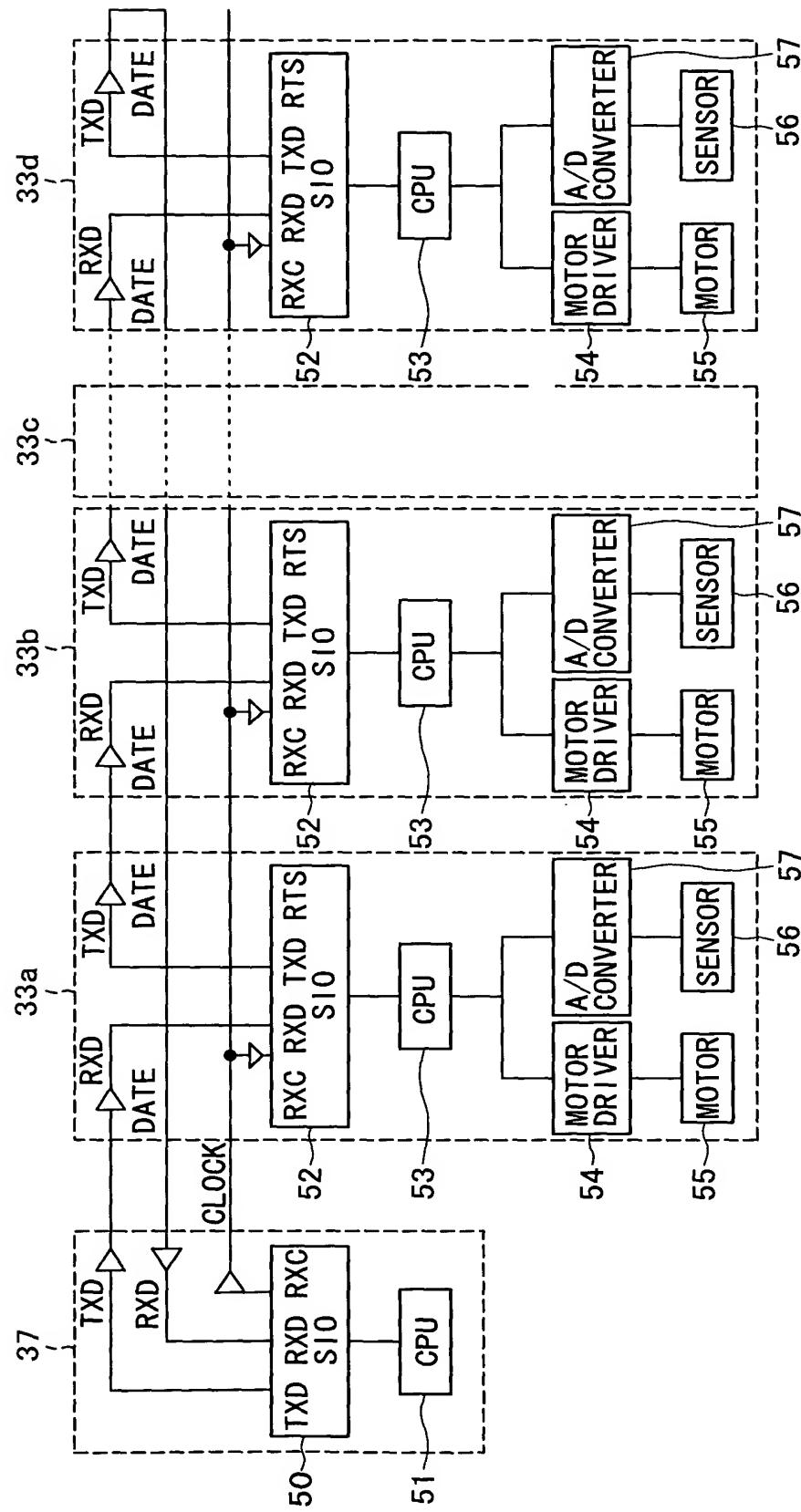
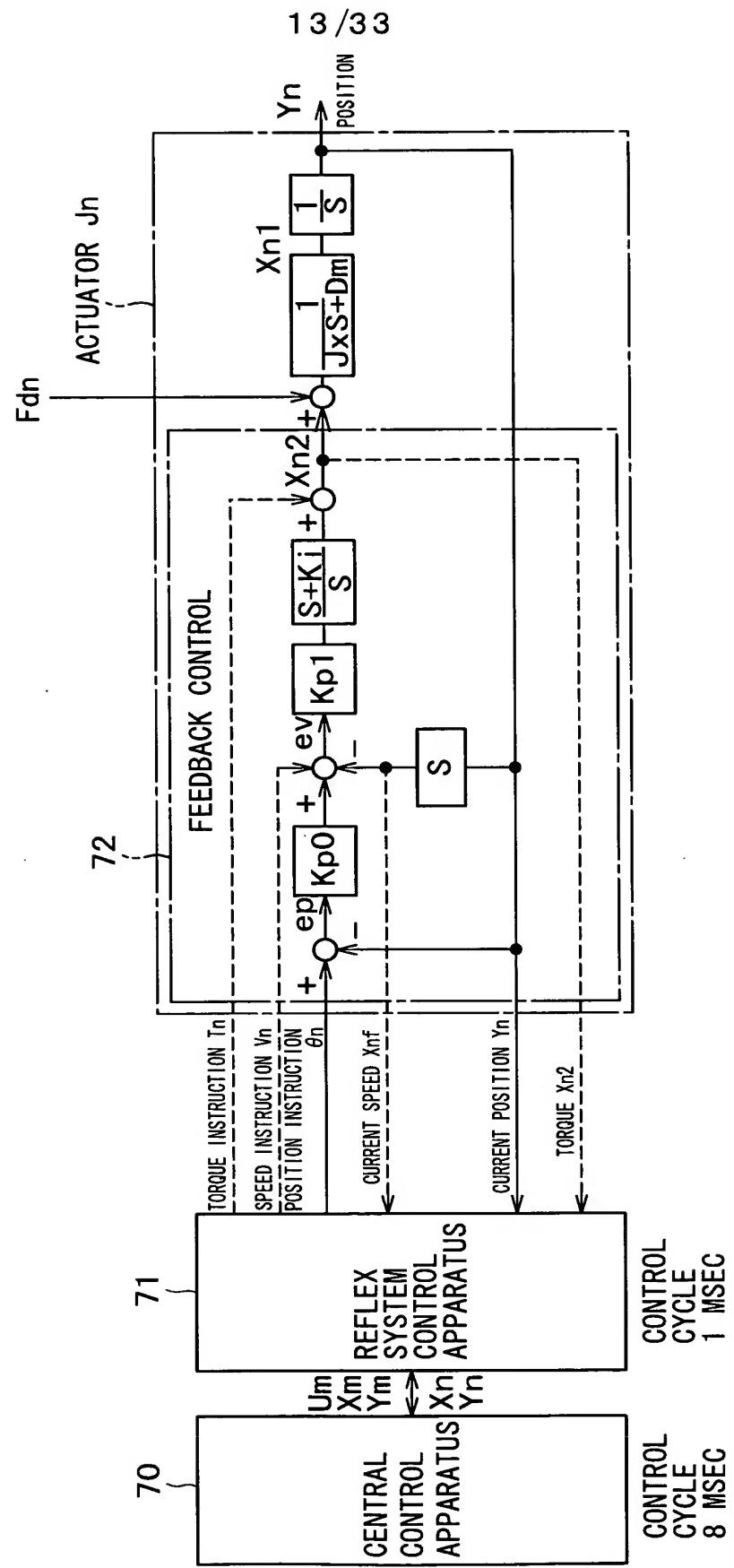
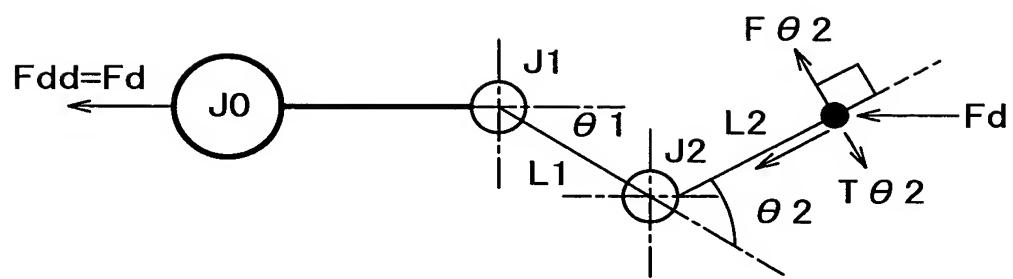


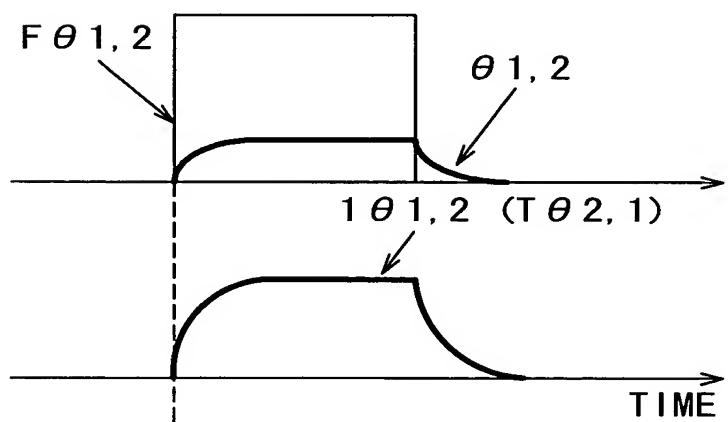
FIG. 13



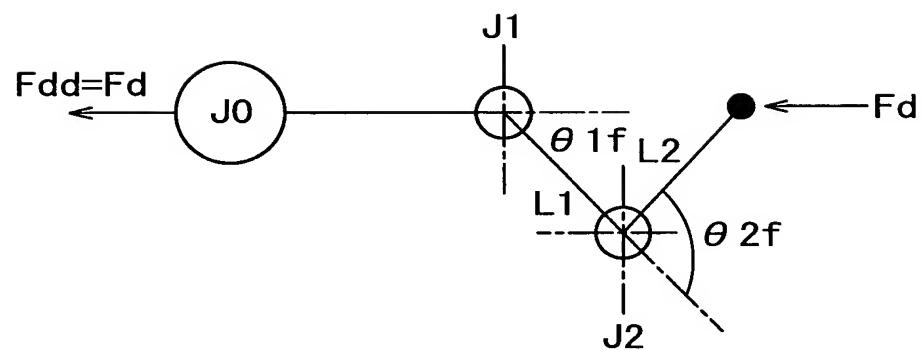
F I G. 14 A



F I G. 14 B



F I G. 15 A



F I G. 15 B

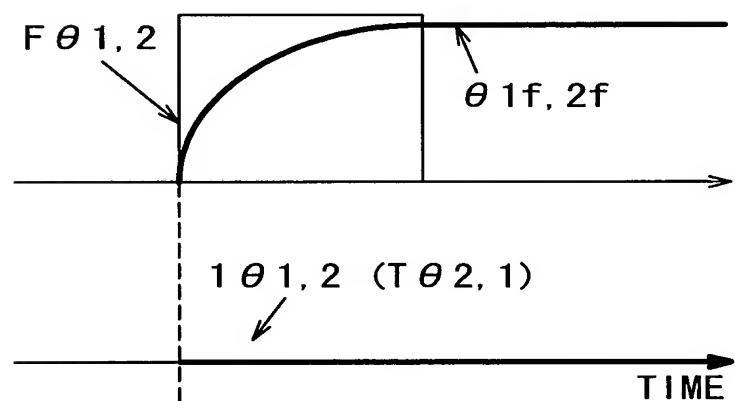


FIG. 16

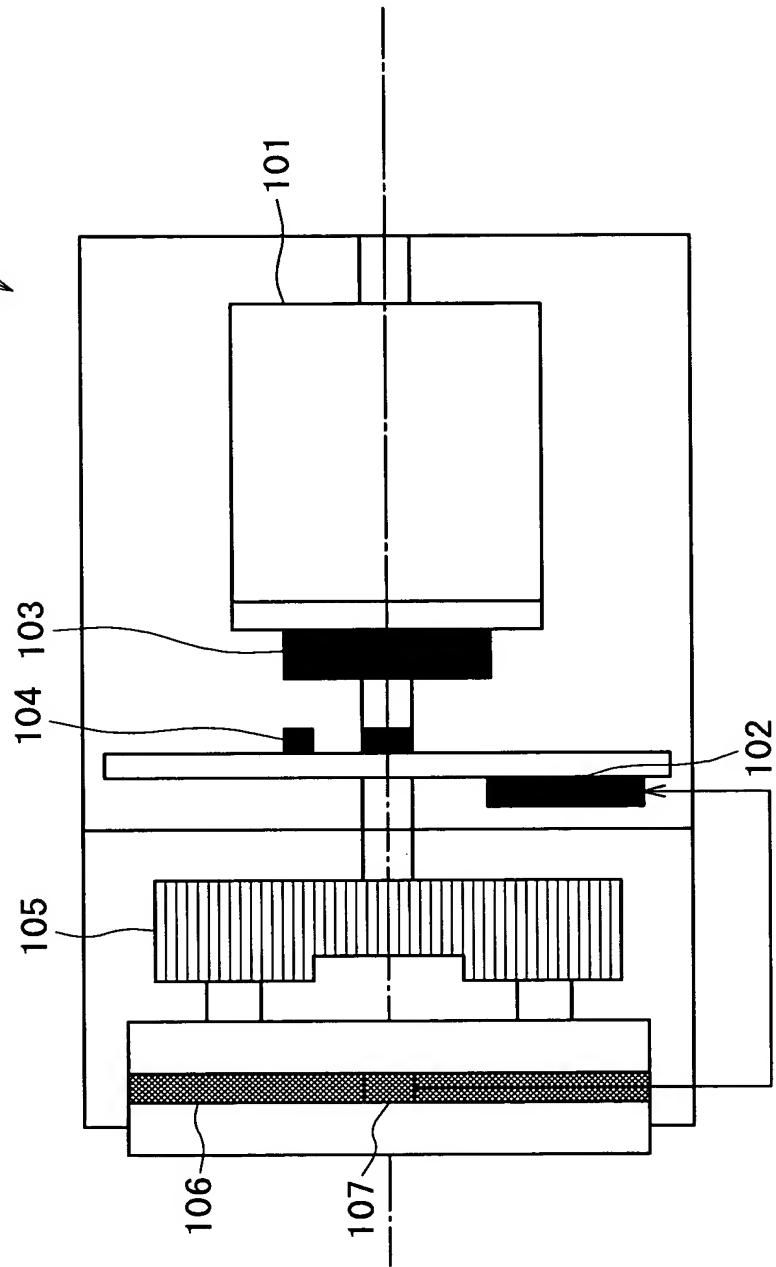


FIG. 17

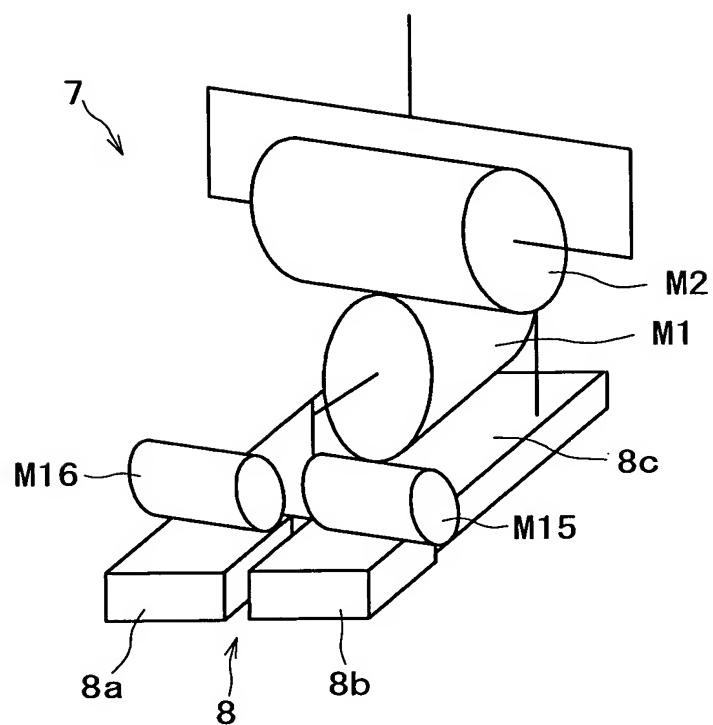


FIG. 18 A

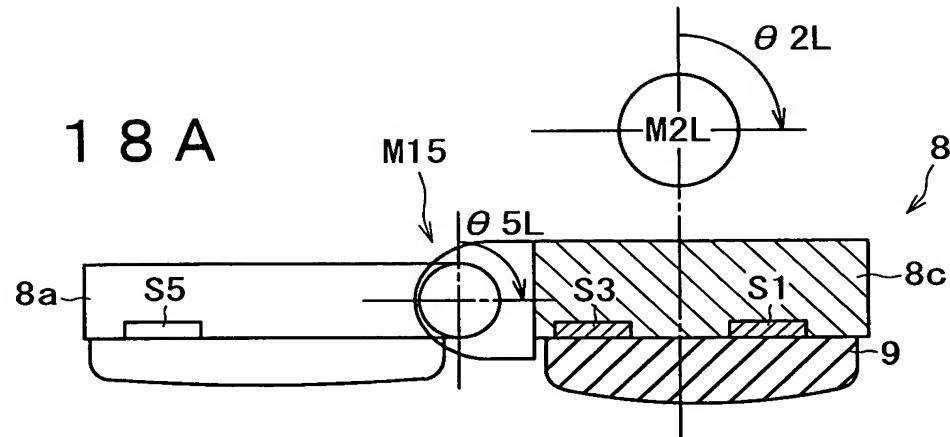


FIG. 18 B

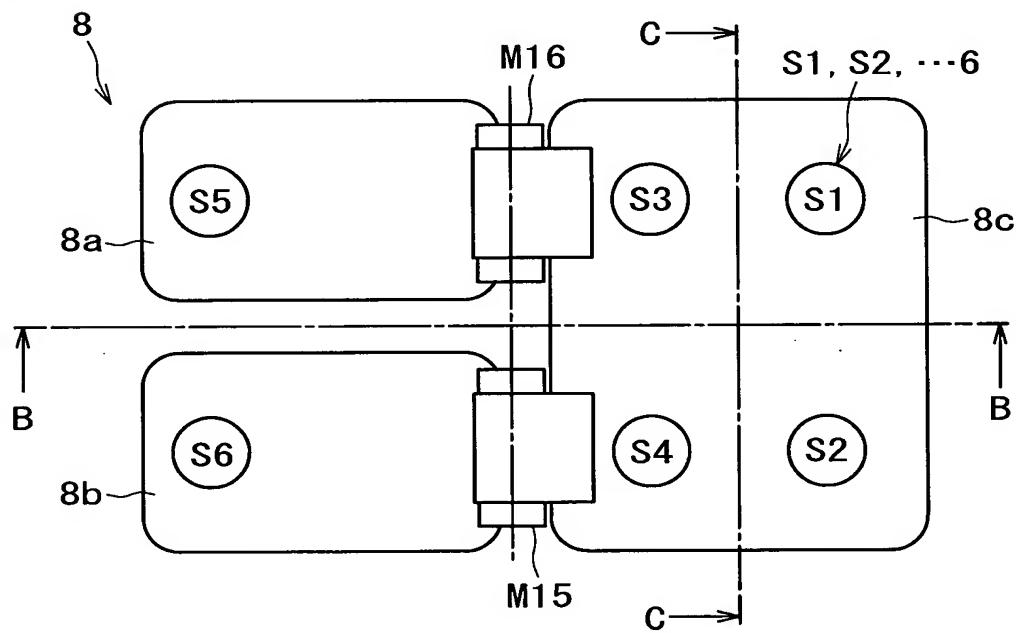
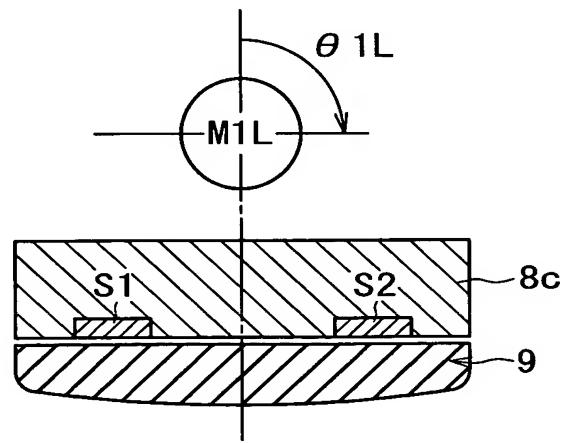
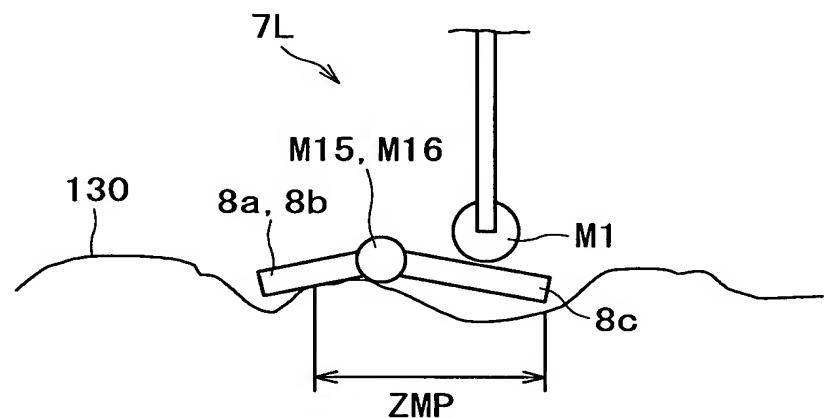


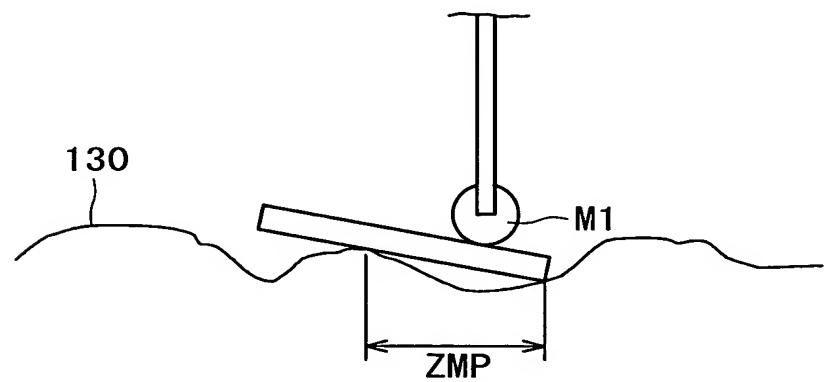
FIG. 18 C



F I G. 19 A



F I G. 19 B



**F I G. 2 0**

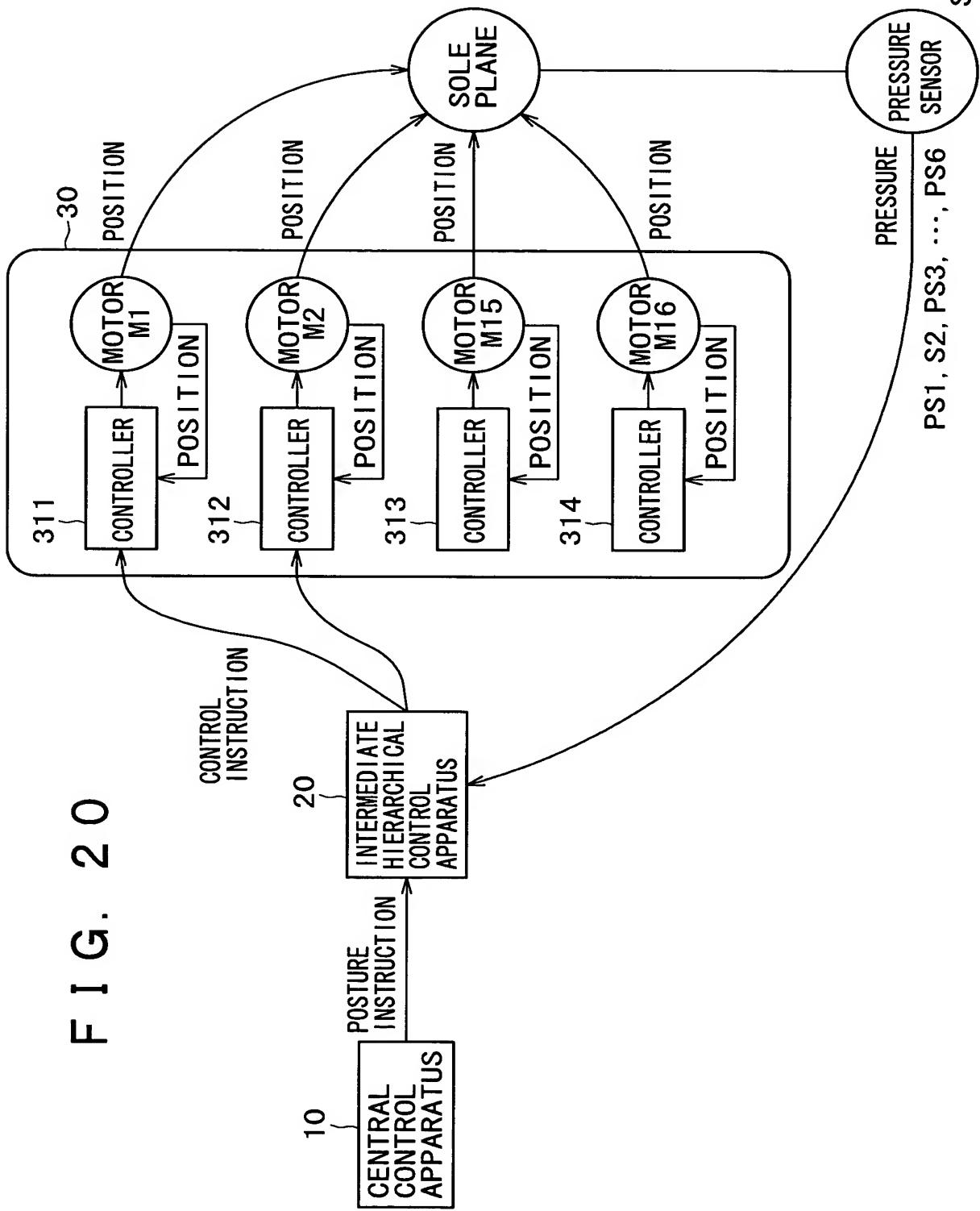


FIG. 21

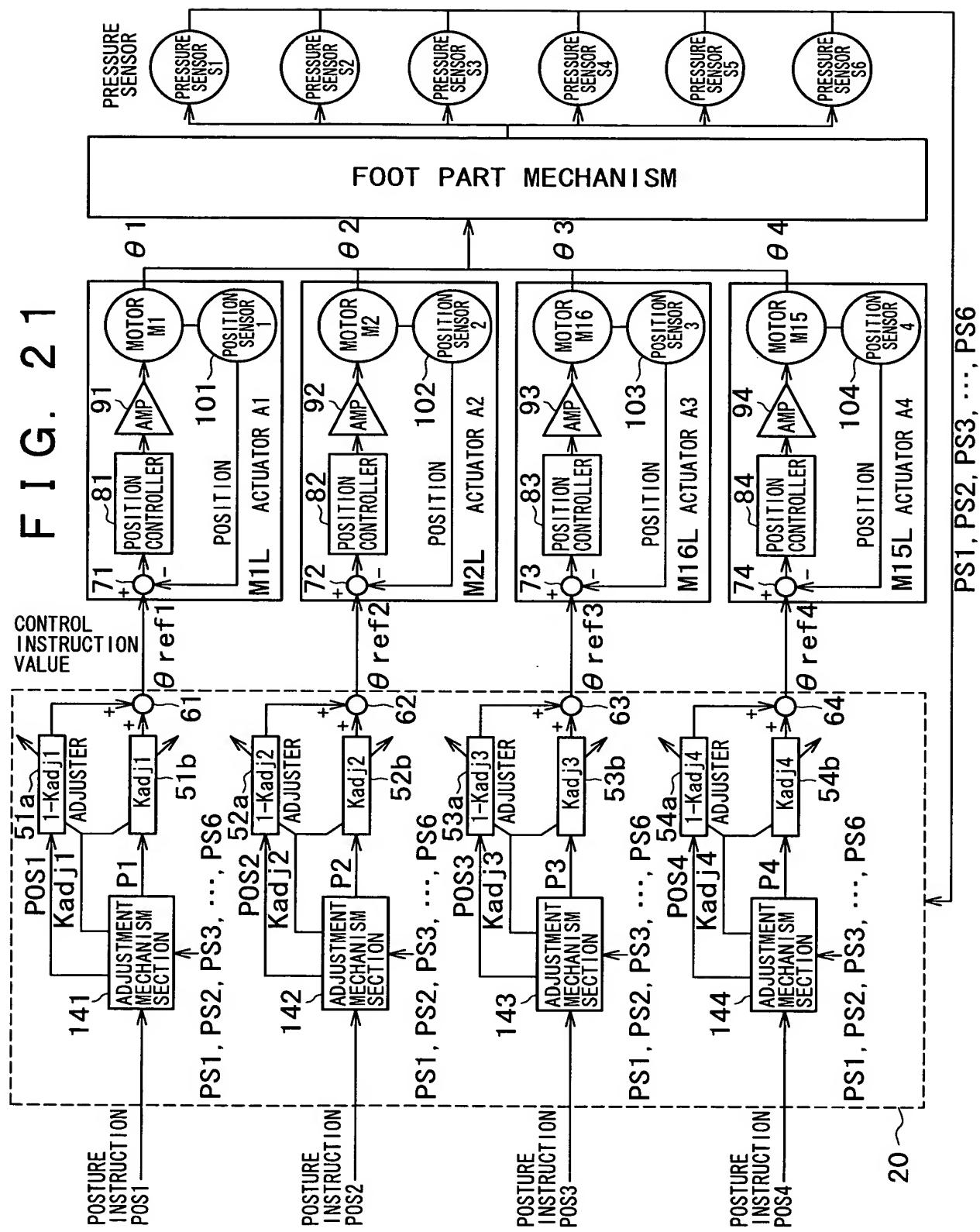
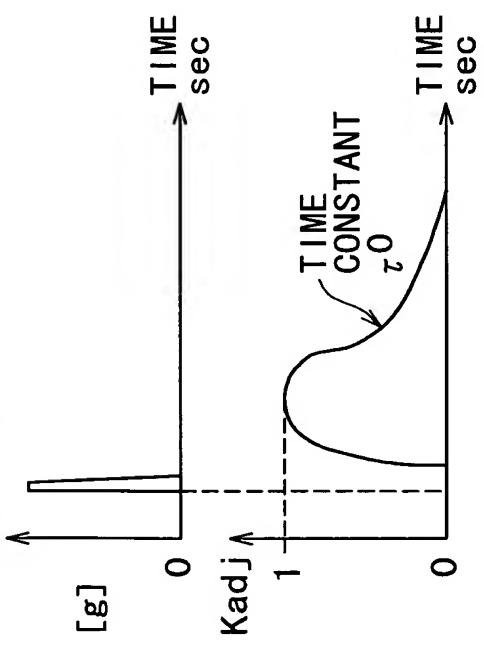
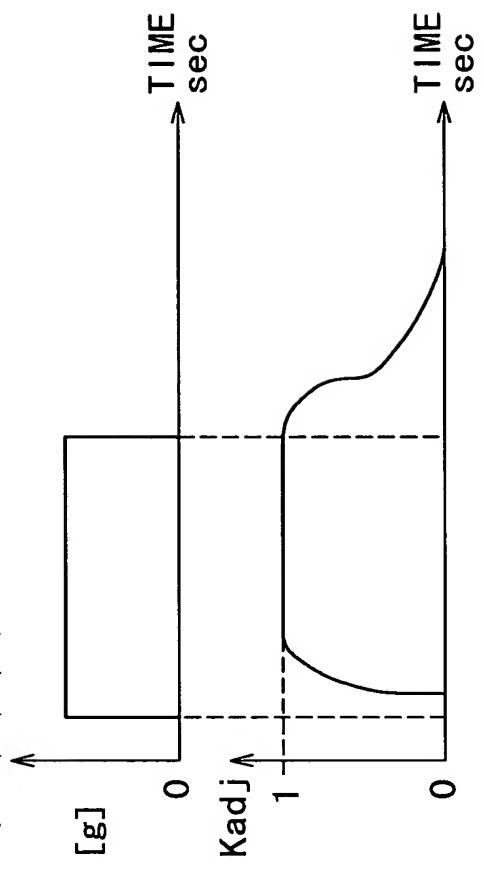


FIG. 22A FIG. 22B

IMPULSE EXTERNAL FORCE  
 $PS_i (i=1, 2, 3, 4)$



STEPPED EXTERNAL FORCE  
 $PS_i (i=1, 2, 3, 4)$



## FIG. 23A FIG. 23B FIG. 23C FIG. 23D

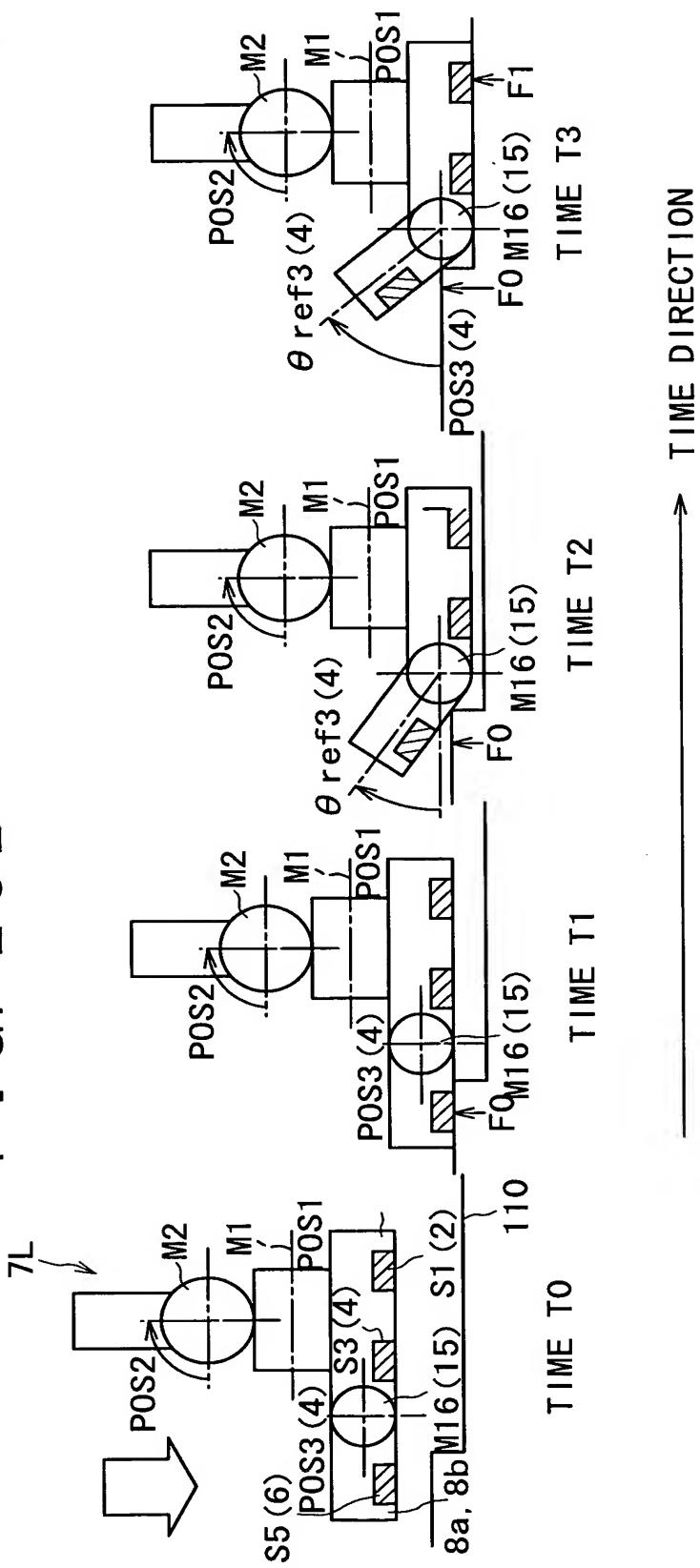
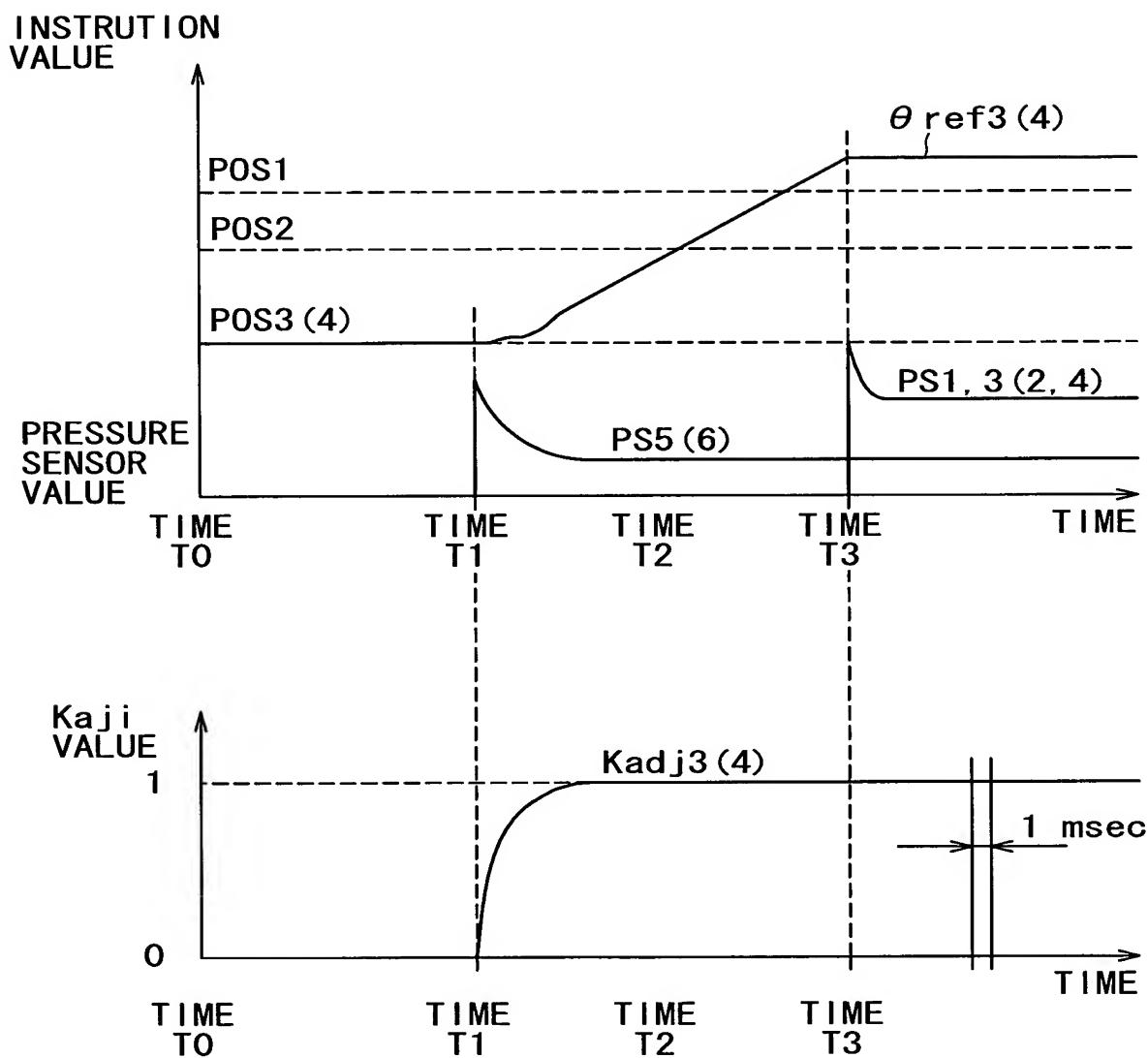


FIG. 24



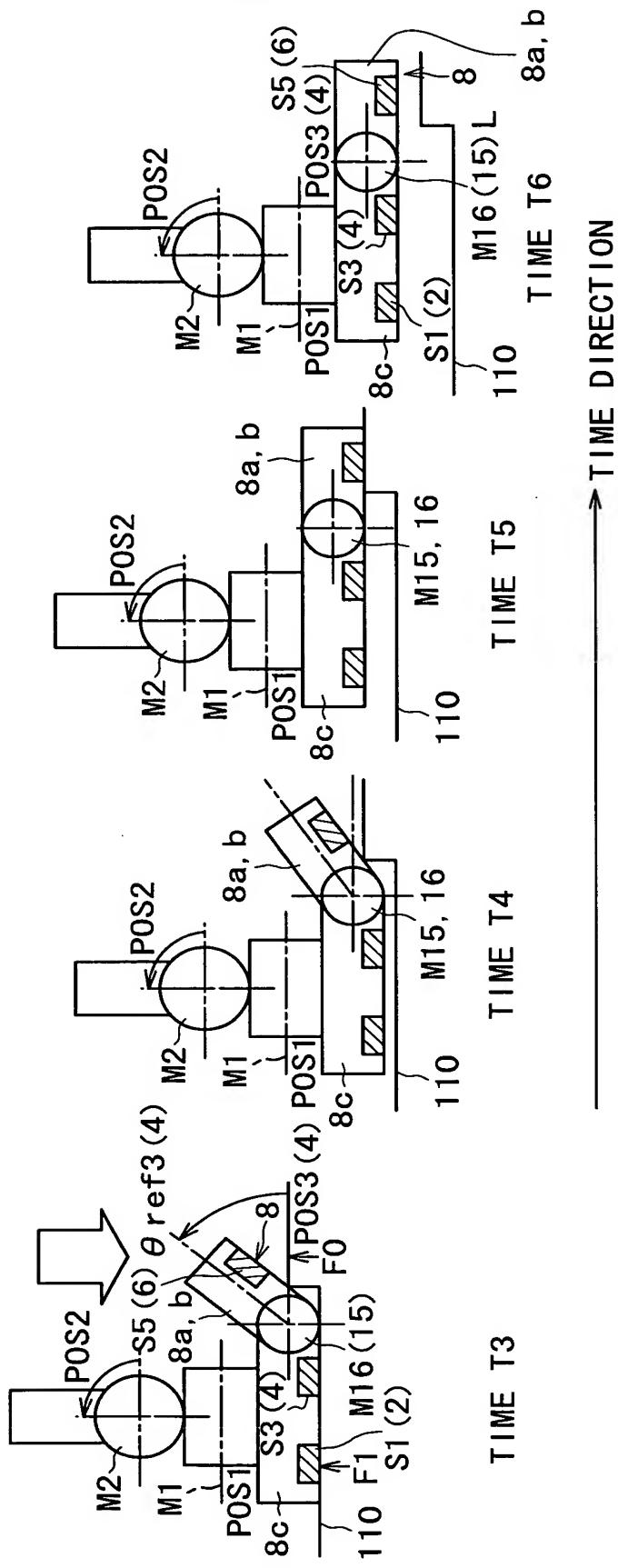
## FIG. 25 A

## FIG. 25 B

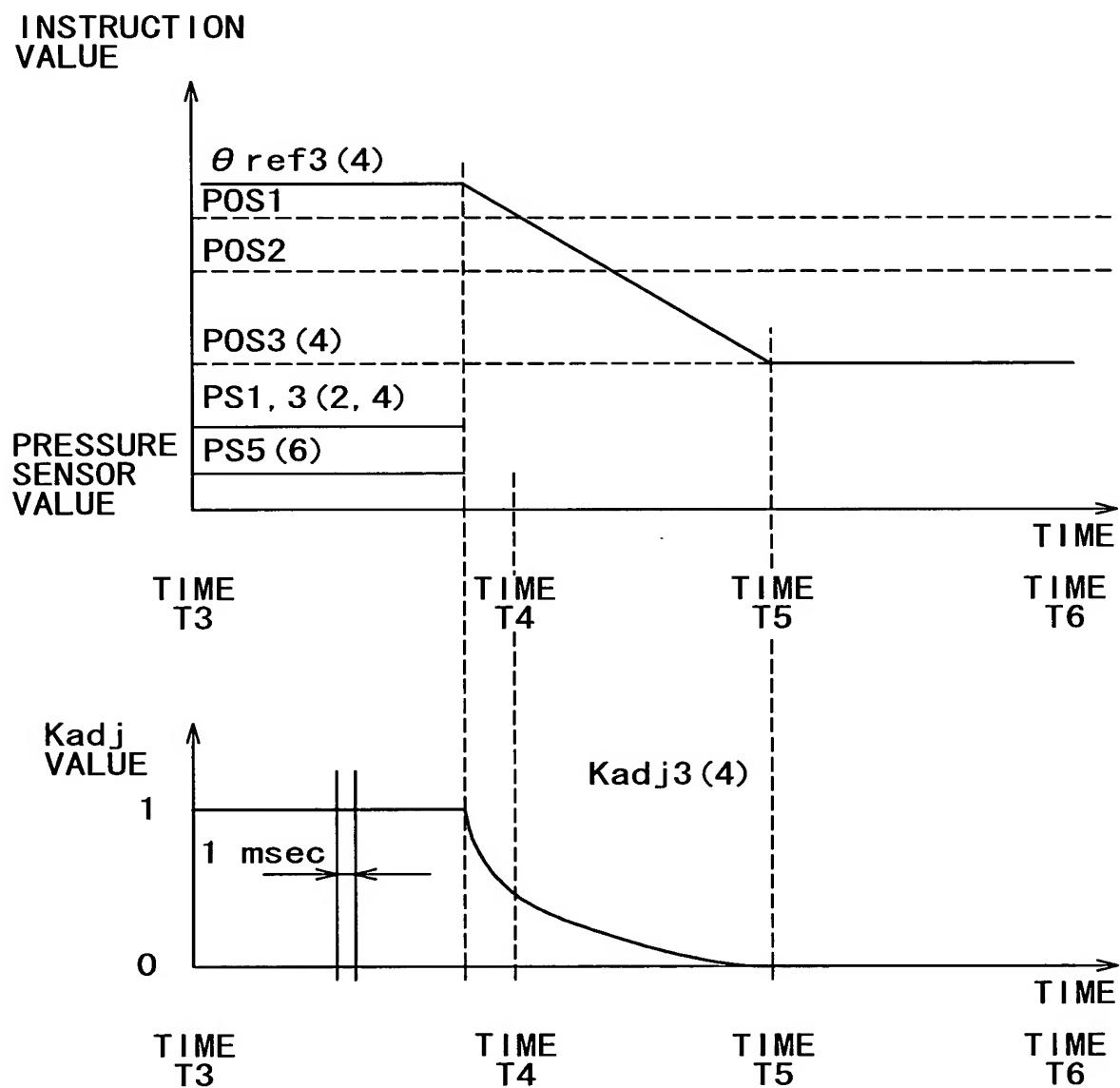
## FIG. 25C

FIG. 23U FIG. 25D

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F I G. 26



## FIG. 27 A FIG. 27 B FIG. 27 C FIG. 27 D

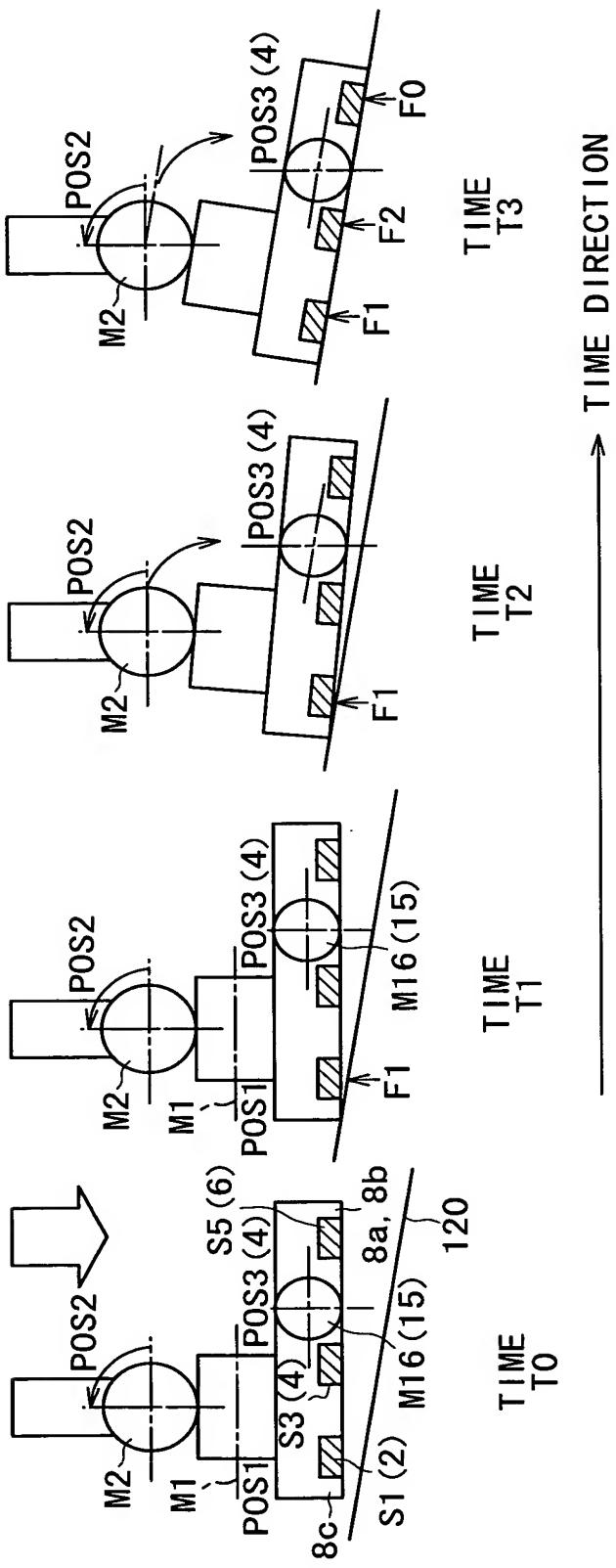


FIG. 28

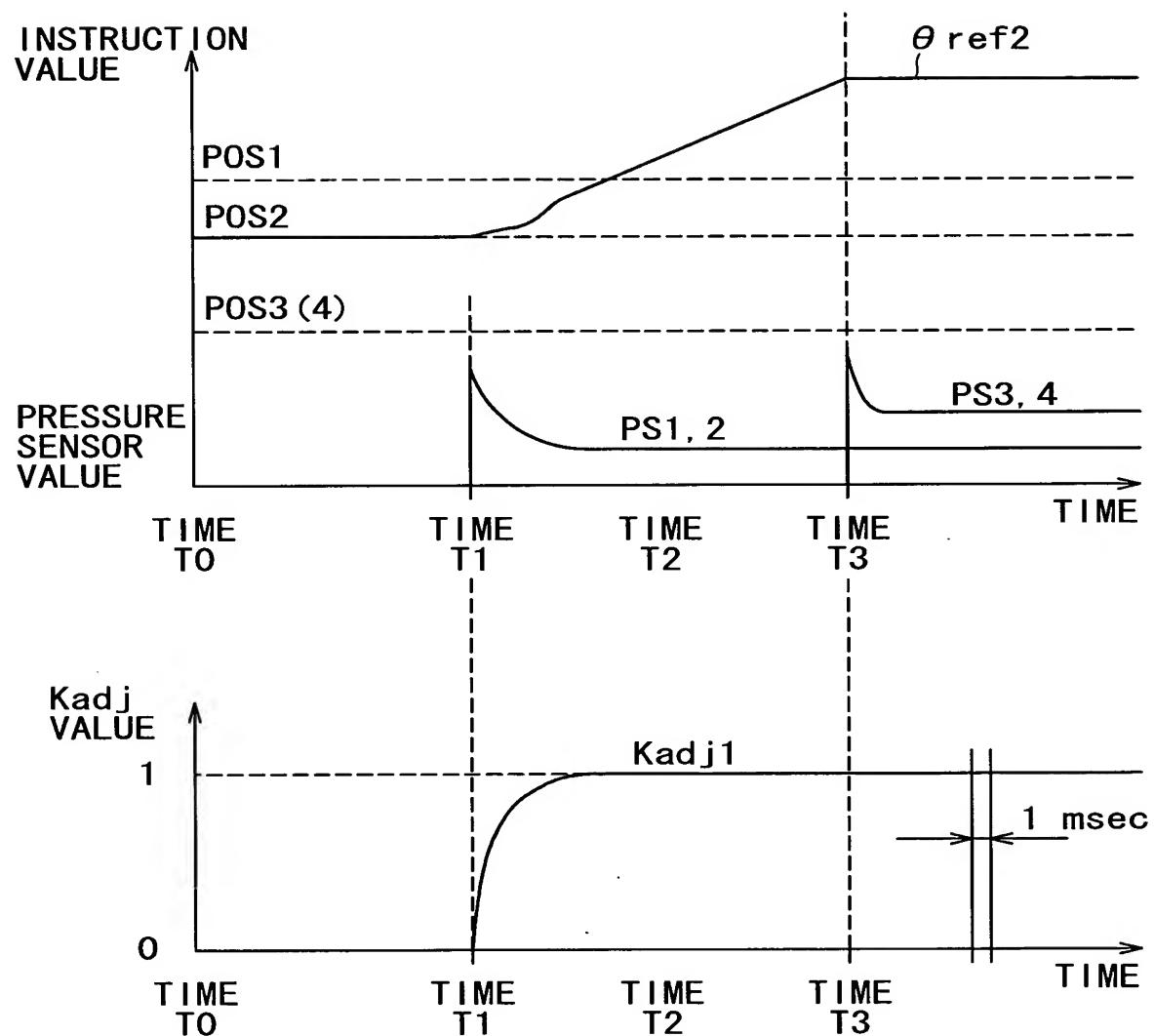
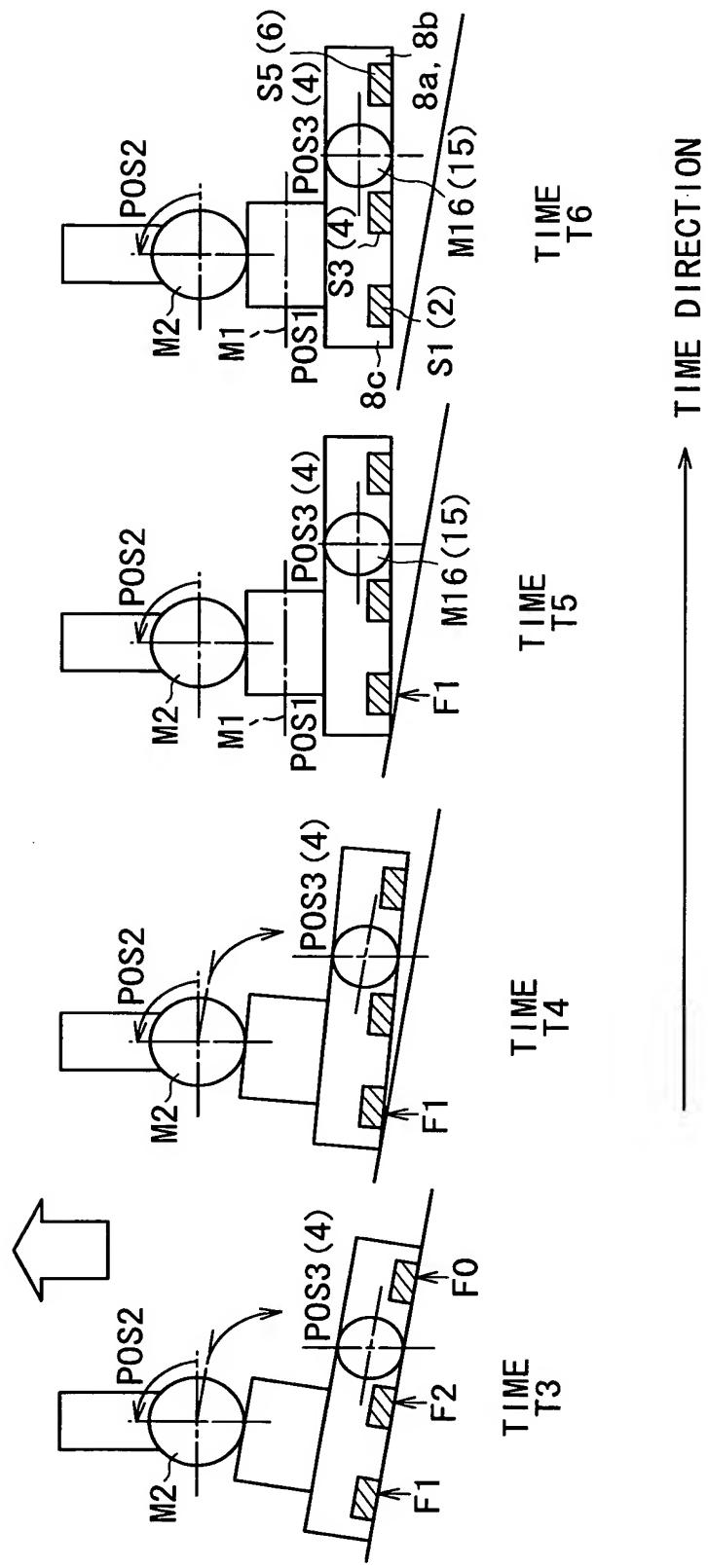
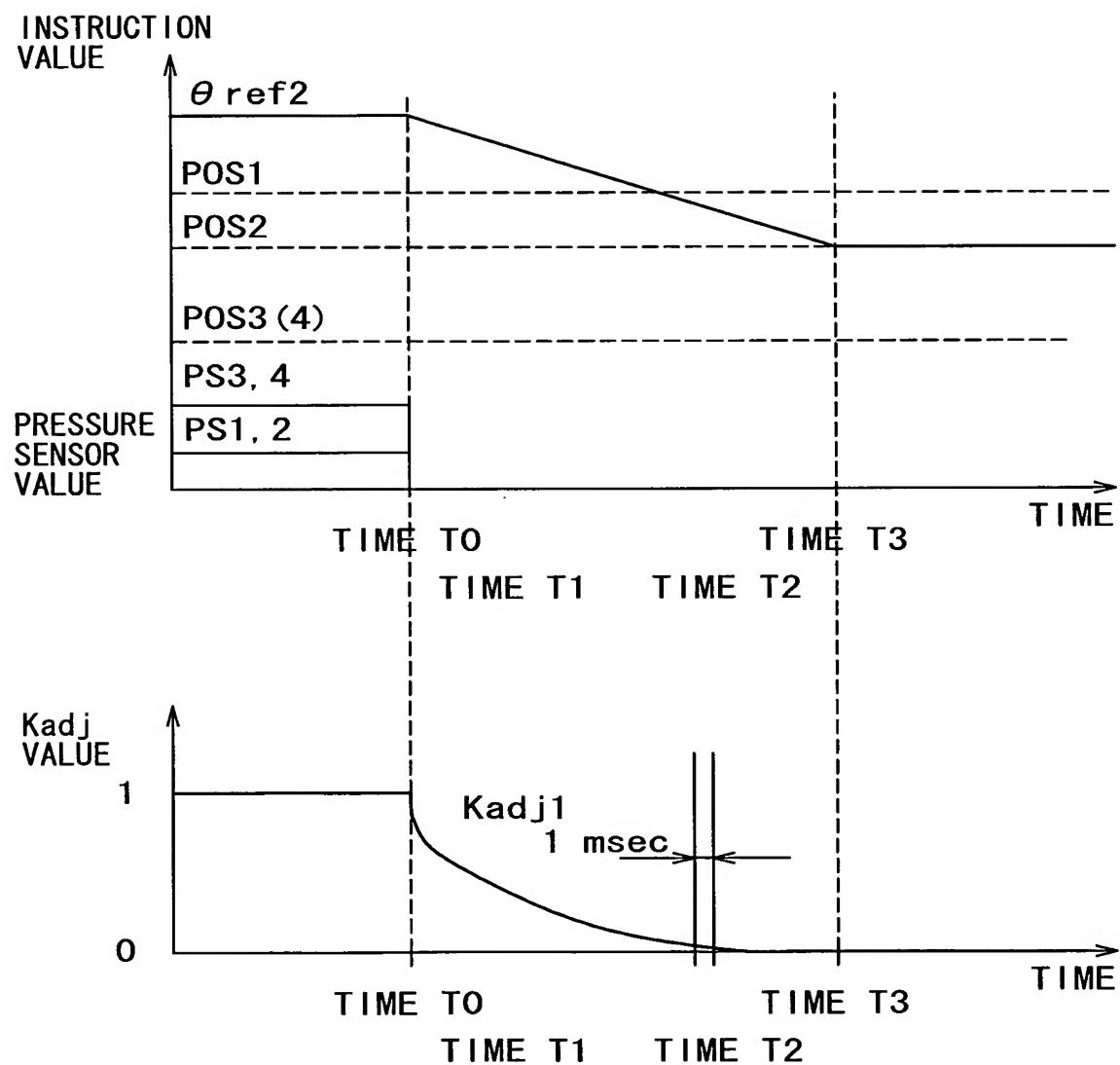


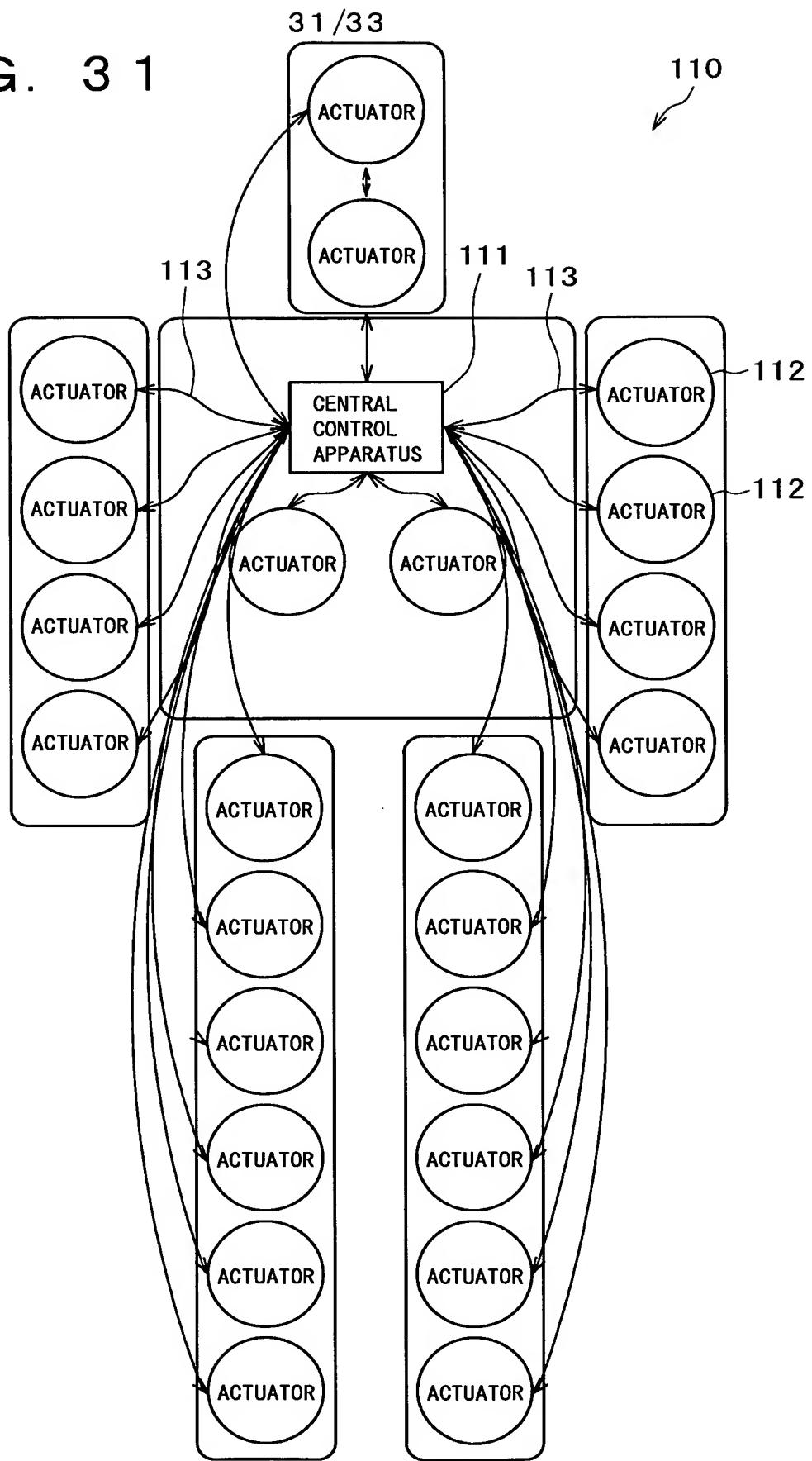
FIG. 29 A      FIG. 29 B      FIG. 29 C      FIG. 29 D



F I G. 30



F I G. 31



F I G. 32

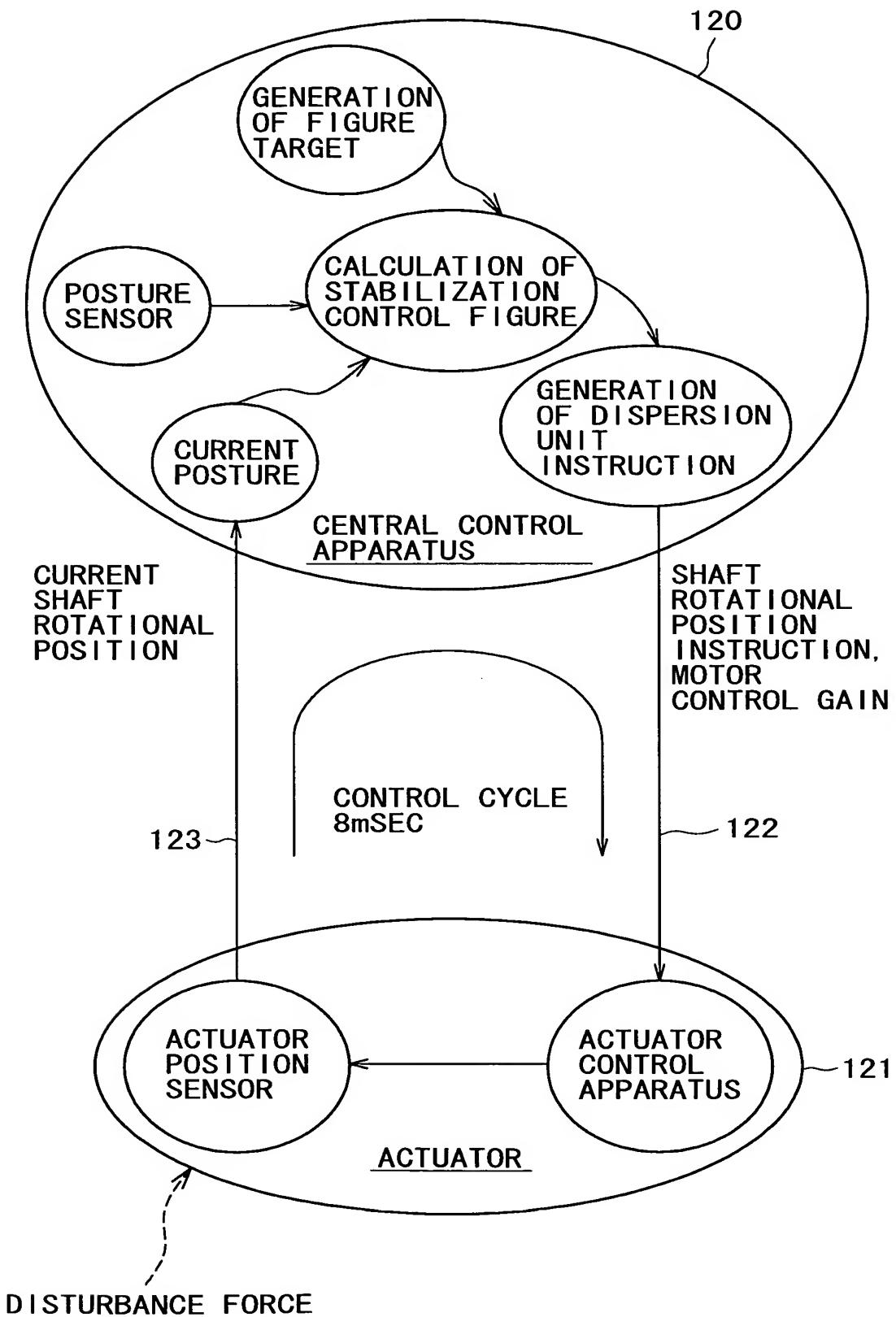


FIG. 33

